BUMPLESS FLIP CHIP ASSEMBLY WITH SOLDER VIA

ABSTRACT

A flip chip assembly, and methods of forming the same, including a single or multi-layer substrate having a plurality of via apertures or holes which serve as the connection between the semiconductor device and substrate circuitry. The method of manufacturing the device of the present invention may include the steps of attaching an integrated circuit (IC) chip or chips to a rigid or flexible substrate circuitry having a plurality of through holes. These through holes are aligned with the IC terminal pads so that the respective traces on the substrate can be connected to the respective input/output terminal pads through the via holes. After attachment, the pre-deposited solder inside the via or on the terminal pad is re-flowed. This re-flow soldering process will then connect the substrate circuitry to the semiconductor device and therefore complete the connection. The soldering materials can be deposited by plating, wave soldering, meniscus coating, and screen printing techniques.